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An Instructional Guide

# **Fat and Moisture in Cooked Sausage**

United States Department of Agriculture  
Food Safety and Quality Service  
Meat and Poultry Inspection  
Program Training Division

AD-33 Bookplate  
(1-68)

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An Instructional Guide

# **Fat and Moisture in Cooked Sausage**

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United States Department of Agriculture  
Food Safety and Quality Service  
Meat and Poultry Inspection  
Program/Training Division  
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# TABLE OF CONTENTS

|   | Page |
|---|------|
| Overview .....  | 1    |
| Cooked Sausage.....   | 2    |
| Lot Inspection.....   | 3    |
| Sampling.....   | 4    |
| Regular Sampling/Certified Laboratory.....                    | 5    |
| Regular Sampling/FSQS Laboratory.....                         | 7    |
| Interpretation of Laboratory Results/Normal Criteria.....     | 8    |
| Interpretation of Laboratory Results/Tightened Criteria ..... | 10   |
| How to Fill Out MP Form 492.....                              | 12   |
| Special Sampling/Production Not Regularly Sampled .....       | 18   |
| Special Sampling/Unsampled Lots.....                          | 23   |
| Special Sampling/Sampled Lots .....                           | 25   |
| Disposition of Retained Product.....                          | 27   |
| Supervisory Evaluation Points.....                            | 32   |





# OVERVIEW

## Regulation

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USDA FSQS Meat Inspection Regulations state (§ 319.180) that certain varieties of cooked sausage may not contain more than 30 percent fat or 10 percent added water.

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## Objectives of this Unit

At the completion of this unit you will be able to:

- Select and supervise the preparation of required laboratory samples, including companion samples;
  - Submit samples to the appropriate FSQS or certified laboratory;
  - Classify lab results and correctly plot values on the MP Form 492;
  - Require a change from normal inspection criteria to tightened inspection criteria and back in accordance with MPI requirements;
  - Retain and take appropriate action for product that does not meet MPI requirements;
  - Determine when it is necessary to contact your supervisor;
  - Check reconditioned product handling and sample product to determine if retained product has been brought into compliance.
- 

## Instructions

This guide is designed to be read through in its entirety (completing the exercise) and then kept for reference. Related topics within the guide are cross-referenced in the “Related Pages” section of each topic.

---

# COOKED SAUSAGE

## Products Regulated

Products covered by this regulation include:

- Frankfurter
- Frank
- Furter
- Hotdog
- Wiener
- Vienna
- Bologna
- Garlic Bologna
- Knockwurst
- Similar products

## Formulations

There are twelve basic formulas for preparing these products.

| MEATS     | BYPRODUCTS | EXTENDERS |
|-----------|------------|-----------|
| 1         | No         | No        |
| 2         |            |           |
| 3 or more |            |           |
| 1         | Yes        | No        |
| 2         |            |           |
| 3 or more |            |           |
| 1         | No         | Yes       |
| 2         |            |           |
| 3 or more |            |           |
| 1         | Yes        | Yes       |
| 2         |            |           |
| 3 or more |            |           |

## Description

These products

- are comminuted, semi-solid sausages prepared from one or more kinds of raw skeletal meat;
- may contain raw or cooked poultry meat not in excess of 15 percent of the total ingredients, excluding water;
- are seasoned and cured, using one or more of the curing agents in accordance with R-318.7(c);
- may or may not be smoked.

## Comment

If you are unsure whether or not a product is covered by this regulation, contact your supervisor.

# LOT INSPECTION

Introduction

Though quality control procedures and lot inspection are used to control the fat and added water content of cooked sausage, only lot inspection will be discussed in this section. For quality control procedures for fat and added water see Manual 18.24(f).

Definitions

Lot inspection is the in-process inspection of products through all phases of production, including finished product testing.

Finished product testing is the sampling of a prescribed number of production lots for laboratory analysis to determine whether proper manufacturing procedures are being followed.

A lot is a shift's production of one size and basic formula or specification.

Rules

Normally, take a random sample of 3 1-pound units (3 pounds) for each 35,000 pounds of product.

There are, however, a maximum and a minimum number of times you should take regular samples.

| IF YOU ARE ON      | SAMPLE AT LEAST | BUT NO MORE THAN |
|--------------------|-----------------|------------------|
| Normal Criteria    | Once a month    | Once a shift     |
| Tightened Criteria | Once a week     |                  |

Comment

You should also sample lots that you suspect are not in compliance, e.g., excessive water added, insufficient cook shrink, improper ratio of fat and lean meat, etc., but select random samples from suspect lots.

Related Page

Sampling, 4

# SAMPLING

## Definitions

---

**Regular** sampling is that sampling normally scheduled to be performed. Regular samples are taken whether the plant is on normal or tightened criteria. Laboratory expenses are borne by the government when the sample is sent to an FSQS laboratory; by the plant when sent to a certified laboratory.

**Special** sampling is that sampling done at the plant's request in addition to regular sampling. Laboratory expenses are borne by the plant.

---

## Classification List

There are several types of special sampling. They include special sampling

- of those production shifts under tightened criteria that are not regularly sampled;
  - of **unsampled** lots in a retained production shift; and
  - of **sampled** lots in a retained production shift.
- 

## Related Pages

Regular Sampling/Certified Laboratory, 5

Regular Sampling/FSQS Laboratory, 7

Special Sampling/Production Not Regularly Sampled, 18

Special Sampling/Unsampled Lots, 23

Special Sampling/Sampled Lots, 25



# REGULAR SAMPLING/CERTIFIED LABORATORY

## Use

Use this procedure when the plant requests that the samples you draw for analysis of fat and/or added water content be sent to a laboratory certified by FSQS.

## Procedure Table

| STEP | PROCEDURE   |
|------|---|
| 1    | <p>Select three separate batches of finished product from one lot of the shift's production. From each batch, draw two random one-pound sample units. (If product is in packages other than one-pound units, draw enough packages to make up a one-pound unit.) Keep each two-unit group separate.</p> <p>[NOTE: Batches of finished product may be identified by tagged sausage cages, separation of product according to formulation batch weights, or arrangement of finished product in chill coolers.]</p> |
| 2    | <p>Take one of the two units from each group and place it in a plastic bag. Fasten each bag tightly and keep the three bags together.</p>   |
| 3    | <p>On separate sheets of paper, number the three bags 1 of 3, 2 of 3, 3 of 3. Date each bag. Identify each bag with the establishment number and a 3-digit sample number (identical for each bag). Attach each sheet of paper to the bag it identifies with a rubber band. These bags will be the plant sample submitted to the laboratory for fat and/or added water analyses.</p> <p>[NOTE: Sample numbers run consecutively from 101-999 and then repeat.]</p>   |
| 4    | <p>Use the same procedure to prepare the remaining three units from each lot. These will be the companion samples. Companion samples should bear the same sample number as the matching plant sample to be sent to the certified laboratory.</p>  |

CONTINUED ON NEXT PAGE

## REGULAR SAMPLING/CERTIFIED LABORATORY (Continued)

| STEP | PROCEDURE   |
|------|---|
| 5    | Store the companion samples in a well-refrigerated area. (When you have accumulated four such groups of three units each, select one of the groups. Prepare an FSQS Form 6200-1, indicating the sample number and the date the sample was originally taken. Identify the sample as a companion sample and request analyses for fat and added water. Submit form and sample to the FSQS laboratory serving MPI in your area. Destroy identifying marks on the other three samples and return them to the plant. Only you and the FSQS laboratory should know the companion sample you selected.) |
| 6    | Prepare an FSQS Form 6200-1 requesting laboratory analysis for fat and/or added water and submit it with the plant sample to the certified laboratory. Include on the form the sample number and the date the sample was taken. Await laboratory analysis results.  |

### Comment

You will not receive laboratory results from the FSQS laboratory on companion samples. Such samples are only used to determine the certified laboratory's continuing analytical capability.

### Related Pages

Interpreting Laboratory Results/Normal Criteria, 8  
Interpreting Laboratory Results/Tightened Criteria, 10

# REGULAR SAMPLING/FSQS LABORATORY

## Use

Use this procedure when the plant elects not to request that the samples you draw for analysis of fat and/or added water content be sent to a laboratory certified by FSQS.

## Procedure Table

| STEP | PROCEDURE  |
|------|--|
| 1    | Select three separate batches of finished product from one lot of the shift's production. From each batch, draw a random one-pound sample.<br><br>[NOTE: Batches of finished product may be identified by tagged sausage cages, separation of product according to formulation batch weights, or arrangement of finished product in chill coolers.]                    |
| 2    | Take each one-pound sample and place it in a plastic bag. Fasten each bag tightly.   |
| 3    | On separate sheets of paper, number the three bags 1 of 3, 2 of 3, 3 of 3. Date each bag. Identify each bag with the establishment number and the last three digits of the FSQS Form 6200-1 which you submit with them. Attach each sheet of paper to the bag it identifies with a rubber band. These bags will be the plant sample submitted for laboratory analysis. |
| 4    | Prepare the FSQS Form 6200-1 requesting laboratory analysis for fat and/or added water and submit it with the plant sample to the FSQS laboratory serving MPI in your area. Await laboratory analysis results.   |

## Related Pages

Interpreting Laboratory Results/Normal Criteria, 8

Interpreting Laboratory Results/Tightened Criteria, 10

# INTERPRETATION OF LABORATORY RESULTS/NORMAL CRITERIA

## Introduction

Laboratory results received from the certified laboratory or the FSQS laboratory will list the percentage of fat or added water found in the samples submitted. Use Table 18.2 in the Manual to translate this percentage into a zone classification.

## Diagram

TABLE 18.2 — SAMPLE LIMITS

| Zone | Percent      |              |
|------|--------------|--------------|
|      | Fat          | Added Water  |
| A    | 30.0 — under | 10.0 — under |
| B    | 30.1 — 30.6  | 10.1 — 11.0  |
| C    | 30.7 — 31.1  | 11.1 — 12.0  |
| D    | 31.2 — 31.6  | 12.1 — 13.0  |
| E    | 31.7 — over  | 13.1 — over  |

## Decision Table

| IF LAB RESULT IS...  | THEN...  |
|--|--|
| <ul style="list-style-type: none"> <li>• Zone E</li> </ul>   | <ul style="list-style-type: none"> <li>• Retain entire shift production</li> <li>• Require plant to rework, shrink, or relabel retained product</li> <li>• Sample subsequent shift production under <b>tightened</b> criteria</li> </ul> |
| <ul style="list-style-type: none"> <li>• Zone D</li> <li>• Second consecutive Zone C</li> <li>• Seventh consecutive Zone B or C</li> </ul> | <ul style="list-style-type: none"> <li>• Permit product to move freely</li> <li>• Sample subsequent shift production under <b>tightened</b> criteria</li> </ul>  |
| <ul style="list-style-type: none"> <li>• Other Zone B or C</li> <li>• Zone A</li> </ul>  | <ul style="list-style-type: none"> <li>• Permit product to move freely</li> <li>• Continue sampling under <b>normal</b> criteria</li> </ul>  |



# INTERPRETATION OF LABORATORY RESULTS/ NORMAL CRITERIA (Continued)

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## Rule

Laboratory results on fat and added water are maintained separately. They are independent of one another. For example, if a laboratory result showed a sample to be in Zone D for fat content and Zone A for added water content then subsequent production would be sampled under **tightened** criteria for fat but **normal** criteria for added water.

---

## Comment

The plant may request special sampling of retained sampled or unsampled lots in lieu of reworking, shrinking, or relabeling retained product.

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## Related Pages

How to Fill Out the MP Form 492, 12  
Special Sampling/Unsampled Lots, 23  
Special Sampling/Sampled Lots, 25

# INTERPRETATION OF LABORATORY RESULTS/TIGHTENED CRITERIA

## Introduction

Laboratory results received from the certified laboratory or the FSQS laboratory will list the percentage of fat or added water found in the samples submitted. Use Table 18.2 in the Manual to translate this percentage into a zone classification.

## Diagram

TABLE 18.2 — SAMPLE LIMITS

| Zone | Percent      |              |
|------|--------------|--------------|
|      | Fat          | Added Water  |
| A    | 30.0 — under | 10.0 — under |
| B    | 30.1 — 30.6  | 10.1 — 11.0  |
| C    | 30.7 — 31.1  | 11.1 — 12.0  |
| D    | 31.2 — 31.6  | 12.1 — 13.0  |
| E    | 31.7 — over  | 13.1 — over  |

## Decision Table

| IF LAB RESULT IS...  | THEN...   |
|--|---|
| <ul style="list-style-type: none"> <li>• Zone E</li> <li>• Zone D</li> <li>• Zone C</li> </ul> | <ul style="list-style-type: none"> <li>• Do not release retained shift production</li> <li>• Require plant to rework, shrink, or relabel retained product</li> <li>• Continue retention of subsequent shift production</li> </ul> |
| <ul style="list-style-type: none"> <li>• Fourth consecutive Zone A</li> </ul>                  | <ul style="list-style-type: none"> <li>• Permit shift production to move freely</li> <li>• Sample subsequent shift production under <b>normal</b> criteria</li> </ul>   |
| <ul style="list-style-type: none"> <li>• Zone B</li> <li>• Other Zone A</li> </ul>             | <ul style="list-style-type: none"> <li>• Permit shift production to move freely</li> <li>• Continue retention of subsequent shift production</li> </ul>   |

# INTERPRETATION OF LABORATORY RESULTS/TIGHTENED CRITERIA (Continued)

---

## Rule

Laboratory results on fat and added water are maintained separately. They are independent of one another. For example, if a product were being sampled under tightened criteria for both fat and added water, and laboratory results for fat content fell in Zone A for four consecutive samples, subsequent sampling for fat would be done under **normal** criteria even if the sampling for added water continued under **tightened** criteria.

---

## Comment

The plant may request special sampling of retained sampled or unsampled lots in lieu of reworking, shrinking, or relabeling retained product.

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## Related Pages

How to Fill Out the MP Form 492, 12  
Special Sampling/Unsampled Lots, 23  
Special Sampling/Sampled Lots, 25

# HOW TO FILL OUT MP FORM 492

## Introduction

MP Form 492, the Score Sheet for Record of Compliance with Cooked Sausage Requirements, is designed to assist you in keeping a record of laboratory results and actions taken.

## Use

Use this form for regular sampling only. Record necessary information on the score sheet each time a laboratory result for a regular sample is received. Keep one MP Form 492 to record results of fat analysis and a separate MP Form 492 to record results of added water analysis.

## Diagram

| UNITED STATES DEPARTMENT OF AGRICULTURE<br>FOOD SAFETY AND QUALITY SERVICE<br>MEAT AND POULTRY INSPECTION PROGRAM<br>SCORE SHEET FOR RECORD OF COMPLIANCE<br>WITH COOKED SAUSAGE REQUIREMENTS |  |  |  |  |  |  |  |  |  | ZONE | PERCENT<br>ADDED WATER | PERCENT FAT | PERCENT FAT |
|---|--|--|--|--|--|--|--|--|--|------|------------------------|-------------|-------------|
| <input type="checkbox"/> ADDED WATER <input type="checkbox"/> FAT      ESTABLISHMENT NO.  |  |  |  |  |  |  |  |  |  | E    | 13.1 & OVER            | 31.7 & OVER |             |
|   |  |  |  |  |  |  |  |  |  | D    | 12.1 - 13.0            | 31.2 - 31.6 |             |
|   |  |  |  |  |  |  |  |  |  | C    | 11.1 - 12.0            | 30.7 - 31.1 |             |
|   |  |  |  |  |  |  |  |  |  | B    | 10.1 - 11.0            | 30.1 - 30.6 |             |
|   |  |  |  |  |  |  |  |  |  | A    | 10.0 & LESS            | 30.0 & LESS |             |
| ITEM  |  |  |  |  |  |  |  |  |  |      |                        |             |             |
| DATE PRODUCED   |  |  |  |  |  |  |  |  |  |      |                        |             |             |
| SAMPLE NO.  |  |  |  |  |  |  |  |  |  |      |                        |             |             |
| NORMAL  |  |  |  |  |  |  |  |  |  |      |                        |             |             |
| TIGHTENED   |  |  |  |  |  |  |  |  |  |      |                        |             |             |
| ZONE E  |  |  |  |  |  |  |  |  |  |      |                        |             |             |
| ZONE D  |  |  |  |  |  |  |  |  |  |      |                        |             |             |
| ZONE C  |  |  |  |  |  |  |  |  |  |      |                        |             |             |
| ZONE B  |  |  |  |  |  |  |  |  |  |      |                        |             |             |
| ZONE A  |  |  |  |  |  |  |  |  |  |      |                        |             |             |
| ACTION TAKEN *  |  |  |  |  |  |  |  |  |  |      |                        |             |             |

\*USE: "1" FOR RELEASED  
 "2" FOR RETAINED  
 "3" FOR REWORKED  
 "4" FOR RELABELED  
 "5" FOR SHRUNK TO 10% ADDED WATER  
 "6" FOR OTHER LOTS SAMPLED

LIMITS - WHEN EXCEEDED GO TO TIGHTENED

MP FORM 492 (8/77)

REPLACES MP FORM 492 (4/76), WHICH MAY BE USED

## Procedure Table

| STEP | PROCEDURE  |
|------|--|
| 1    | Check the "ADDED WATER" or "FAT" block to identify which laboratory results you will be recording on this score sheet. |
| 2    | Enter the establishment number.  |
| 3    | On the "ITEM" line, enter the type of product that was sampled.  |
| 4    | Enter the date the product was produced on the next line.  |



## HOW TO FILL OUT MP FORM 492 (Continued)

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| STEP | PROCEDURE  |
|------|--|
| 5    | On the "SAMPLE NO." line, enter the regular sample number.   |
| 6    | Check whether the sample was taken under normal or tightened criteria.   |
| 7    | Check which zone the laboratory results fall into.   |
| 8    | On the "ACTION TAKEN" line, enter in the upper half of the block the number indicating whether the product was released (1) or retained (2).   |
| 9    | If the product was retained, enter in the lower half of the block the number indicating whether the product was reworked (3), relabeled (4), or shrunk to 10 percent added water (5), or whether the plant requested special sampling (6). |

---

### Comment

A third MP Form 492 is maintained to record laboratory analyses for added water in cooked sausage that is **not** limited by the Regulations to 30% fat, but is limited to 10% water (e.g., cotto salami, Polish sausage, liver sausage, braunschwieger). All such products are controlled by this one form.

---

### Related Page

Filling Out the MP Form 492/Exercise, 12

## EXERCISE — MP FORM 492

Given Table 18.2 from the Manual

TABLE 18.2 — SAMPLE LIMITS

| Zone | Percent      |              |
|------|--------------|--------------|
|      | Fat          | Added Water  |
| A    | 30.0 — under | 10.0 — under |
| B    | 30.1 — 30.6  | 10.1 — 11.0  |
| C    | 30.7 — 31.1  | 11.1 — 12.0  |
| D    | 31.2 — 31.6  | 12.1 — 13.0  |
| E    | 31.7 — over  | 13.1 — over  |

and this series of regular sample lab results

| SAMPLE NO. | FAT CONTENT | SAMPLE NO. | FAT CONTENT |
|------------|-------------|------------|-------------|
| 38-272     | 29.8        | 38-282     | 30.3        |
| 38-273     | 30.9        | 38-283     | 30.6        |
| 38-274     | 31.0        | 38-284     | 30.1        |
| 38-275     | 30.4        | 38-285     | 31.0        |
| 38-276     | 29.1        | 38-286     | 30.5        |
| 38-277     | 28.9        | 38-287     | 29.8        |
| 38-278     | 29.4        | 38-288     | 29.4        |
| 38-279     | 29.9        | 38-289     | 28.8        |
| 38-280     | 30.5        | 38-290     | 29.7        |
| 38-281     | 30.8        |            |             |

fill in on the MP Form 492 on page 15:

- Sample numbers
- Whether the next shift production should be sampled under **normal** or **tightened** criteria (make an X in the proper block);
- Zone in which the lab result falls (make an X in the proper block).

It is not necessary to fill in any other information.

| UNITED STATES DEPARTMENT OF AGRICULTURE<br>FOOD SAFETY AND QUALITY SERVICE<br>MEAT AND POULTRY INSPECTION PROGRAM |  |  |  |  |  |  |  |  |  | ZONE | PERCENT<br>ADDED WATER | PERCENT FAT | PERCENT FAT |
|---|--|--|--|--|--|--|--|--|--|------|------------------------|-------------|-------------|
| <b>SCORE SHEET FOR RECORD OF COMPLIANCE<br/>WITH COOKED SAUSAGE REQUIREMENTS</b>                                  |  |  |  |  |  |  |  |  |  | E    | 13.1 & OVER            | 31.7 & OVER |             |
|   |  |  |  |  |  |  |  |  |  | D    | 12.1 - 13.0            | 31.2 - 31.6 |             |
|   |  |  |  |  |  |  |  |  |  | C    | 11.1 - 12.0            | 30.7 - 31.1 |             |
|   |  |  |  |  |  |  |  |  |  | B    | 10.1 - 11.0            | 30.1 - 30.6 |             |
|   |  |  |  |  |  |  |  |  |  | A    | 10.0 & LESS            | 30.0 & LESS |             |
| <input type="checkbox"/> ADDED WATER <input type="checkbox"/> FAT      ESTABLISHMENT NO.                          |  |  |  |  |  |  |  |  |  |      |                        |             |             |
| ITEM  |  |  |  |  |  |  |  |  |  |      |                        |             |             |
| DATE<br>PRODUCED  |  |  |  |  |  |  |  |  |  |      |                        |             |             |
| SAMPLE NO.  |  |  |  |  |  |  |  |  |  |      |                        |             |             |
| NORMAL  |  |  |  |  |  |  |  |  |  |      |                        |             |             |
| TIGHTENED   |  |  |  |  |  |  |  |  |  |      |                        |             |             |
| ZONE E  |  |  |  |  |  |  |  |  |  |      |                        |             |             |
| ZONE D  |  |  |  |  |  |  |  |  |  |      |                        |             |             |
| ZONE C  |  |  |  |  |  |  |  |  |  |      |                        |             |             |
| ZONE B  |  |  |  |  |  |  |  |  |  |      |                        |             |             |
| ZONE A  |  |  |  |  |  |  |  |  |  |      |                        |             |             |
| ACTION<br>TAKEN *   |  |  |  |  |  |  |  |  |  |      |                        |             |             |

\*USE: "1" FOR RELEASED  
 "2" FOR RETAINED  
 "3" FOR REWORKED  
 "4" FOR RELABELED  
 "5" FOR SHRUNK TO 10% ADDED WATER  
 "6" FOR OTHER LOTS SAMPLED

LIMITS - WHEN EXCEEDED GO TO TIGHTENED

MP FORM 492 (8/77)

REPLACES MP FORM 492 (4/76), WHICH MAY BE USED

# EXERCISE — MP FORM 492/ANSWERS

| UNITED STATES DEPARTMENT OF AGRICULTURE<br>FOOD SAFETY AND QUALITY SERVICE<br>MEAT AND POULTRY INSPECTION PROGRAM<br>SCORE SHEET FOR RECORD OF COMPLIANCE<br>WITH COOKED SAUSAGE REQUIREMENTS |     |     |     |     |     |     |     |     |     |     |     | ZONE |             | PERCENT<br>ADDED WATER |     | PERCENT FAT |     | PERCENT FAT |     |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-------------|------------------------|-----|-------------|-----|-------------|-----|
| <input type="checkbox"/> ADDED WATER <input checked="" type="checkbox"/> FAT      ESTABLISHMENT NO.   |     |     |     |     |     |     |     |     |     |     |     | E    | 13.1 & OVER | 31.7 & OVER            |     |             |     |             |     |
|   |     |     |     |     |     |     |     |     |     |     |     | O    | 12.1 - 13.0 | 31.2 - 31.6            |     |             |     |             |     |
|   |     |     |     |     |     |     |     |     |     |     |     | C    | 11.1 - 12.0 | 30.7 - 31.1            |     |             |     |             |     |
|   |     |     |     |     |     |     |     |     |     |     |     | B    | 10.1 - 11.0 | 30.1 - 30.6            |     |             |     |             |     |
|   |     |     |     |     |     |     |     |     |     |     |     | A    | 10.0 & LESS | 30.0 & LESS            |     |             |     |             |     |
|   |     |     |     |     |     |     |     |     |     |     |     | ITEM |             |                        |     |             |     |             |     |
| DATE PRODUCED   |     |     |     |     |     |     |     |     |     |     |     |      |             |                        |     |             |     |             |     |
| SAMPLE NO   | 272 | 273 | 274 | 275 | 276 | 277 | 278 | 279 | 280 | 281 | 282 | 283  | 284         | 285                    | 286 | 287         | 288 | 289         | 290 |
| NORMAL  | ✓   | ✓   | ✓   |     |     |     |     |     | ✓   | ✓   | ✓   | ✓    | ✓           | ✓                      | ✓   |             |     |             |     |
| TIGHTENED   |     |     |     | ✓   | ✓   | ✓   | ✓   | ✓   |     |     |     |      |             |                        |     | ✓           | ✓   | ✓           | ✓   |
| ZONE E  |     |     |     |     |     |     |     |     |     |     |     |      |             |                        |     |             |     |             |     |
| ZONE D  |     |     |     |     |     |     |     |     |     |     |     |      |             |                        |     |             |     |             |     |
| ZONE C  |     | ×   | ×   |     |     |     |     |     |     | ×   |     |      |             | ×                      |     |             |     |             |     |
| ZONE B  |     |     |     | ×   |     |     |     |     | ×   |     | ×   | ×    | ×           | ×                      | ×   |             |     |             |     |
| ZONE A  | ×   |     |     |     | ×   | ×   | ×   | ×   |     |     |     |      |             |                        |     | ×           | ×   | ×           | ×   |
| ACTION TAKEN *  | /   | /   | /   | /   | /   | /   | /   | /   | /   | /   | /   | /    | /           | /                      | /   | /           | /   | /           | /   |

\*USE "1" FOR RELEASED  
 "2" FOR RETAINED  
 "3" FOR REWORKED  
 "4" FOR RELABELED  
 "5" FOR SHRUNK TO 10% ADDED WATER  
 "6" FOR OTHER LOTS SAMPLED

LIMITS - WHEN EXCEEDED GO TO TIGHTENED

MP FORM 492 (8/77)

REPLACES MP FORM 492 (4/76), WHICH MAY BE USED

- 38-272.** Zone A. Sampling is begun under normal inspection criteria.
- 38-273.** Zone C. Sampling is under normal criteria.
- 38-274.** Zone C. Sampling under normal criteria. Since this is the second consecutive sample to be classified in Zone C, the next regular sample must be taken under tightened criteria.
- 38-275.** Zone B. Sampling under tightened criteria.
- 38-276.** Zone A. Sampling under tightened criteria.
- 38-277.** Zone A. Sampling under tightened criteria.
- 38-278.** Zone A. Sampling under tightened criteria.
- 38-279.** Zone A. Sampling under tightened criteria. Since this is the fourth consecutive sample to be classified in Zone A, return to normal criteria with the next regular sample.
- 38-280.** Zone B. Sampling under normal criteria.
- 38-281.** Zone C. Sampling under normal criteria.



## EXERCISE — MP FORM 492/ANSWERS (Continued)

- 38-282. Zone B. Sampling under normal criteria.
- 38-283. Zone B. Sampling under normal criteria.
- 38-284. Zone B. Sampling under normal criteria.
- 38-285. Zone C. Sampling under normal criteria.
- 38-286. Zone B. Sampling under normal criteria. Since this is the seventh consecutive sample to be classified in Zone B or Zone C, the next regular sample must be taken under tightened criteria.
- 38-287. Zone A. Sampling under tightened criteria.
- 38-288. Zone A. Sampling under tightened criteria.
- 38-289. Zone A. Sampling under tightened criteria.
- 38-290. Zone A. Sampling under tightened criteria. Since this is the fourth consecutive sample to be classified in Zone A, you would return to normal criteria with the next regular sample.

# SPECIAL SAMPLING/PRODUCTION NOT REGULARLY SAMPLED

## Introduction

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Under tightened inspection criteria, all production must be retained pending laboratory analysis. Those shift productions that are not regularly sampled must be sampled under special sampling to be released.

---

## Options

The plant has two options for sampling these shift procedures:

- The plant may elect to have one sample represent the entire shift production.
  - The plant may elect to have the lots in the shift production sampled individually. If lots cannot be identified, products may be grouped by labels.
- 

## Comment

Laboratory results for such sampling are **not** recorded on the MP Form 492 nor are they used to return inspection to normal criteria.

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## Related Pages

Option 1, 19

Option 2, 21

# SPECIAL SAMPLING/PRODUCTION NOT REGULARLY SAMPLED/OPTION 1

## Option 1

The plant may elect to have one sample drawn to represent the entire shift production.

### Procedure Table

| STEP | PROCEDURE  |
|------|--|
| 1    | Select three separate batches of finished product from one lot of the shift's production. From each batch, draw two random one-pound sample units. Keep each two-unit group separate.  |
| 2    | Take one of the two units from each group and place it in a plastic bag. Fasten each bag tightly and keep the three bags together.   |
| 3    | Number the three bags 1 of 3, 2 of 3, and 3 of 3. Date each bag. Identify each with the establishment number and a sample number. (Sample numbers run consecutively from 101 to 999 and then repeat.) Each bag within a sample should carry an identical sample number.  |
| 4    | Use the same procedure to prepare the remaining three units from each lot. These will be the companion samples. Companion samples should bear the same sample number as the matching plant sample to be sent to the certified laboratory.  |
| 5    | Store the companion samples in a well-refrigerated area. [When you have accumulated four such groups of three units each, select one of the groups. Prepare an FSQS Form 6200-1, indicating the sample number and the date the sample was originally taken. Identify the sample as a companion sample and request analyses for fat and/or added water. Submit form and sample to the FSQS laboratory serving MPI in your area. Destroy identifying marks on the other three samples and return them to the plant. Only you and the FSQS laboratory should know the companion sample you selected.] |
| 6    | Prepare an FSQS Form 6200-1 requesting laboratory analyses for fat and/or added water and submit it with the plant sample to the certified laboratory. Include on the form the sample number and the date the sample was taken. Await laboratory analysis results.   |

CONTINUED ON NEXT PAGE

# SPECIAL SAMPLING/PRODUCTION NOT REGULARLY SAMPLED/OPTION 1 (Continued)

| STEP | PROCEDURE   |   |
|------|---|---|
| 7    | When you receive the laboratory results, determine the zone classification for each sample submitted. |   |
|      | IF THE LABORATORY RESULT IS CLASSIFIED IN   | THEN  |
|      | Zone A  | Release the shift production.   |
|      | Zone B  |   |
|      | Zone C  | Keep the shift production retained and require the plant to rework, shrink, or relabel the product. |
|      | Zone D  |   |
|      | Zone E  |   |

## Comment

The plant may request additional special sampling of retained lots. The lot from which the sample was drawn is now a **sampled** lot. All other lots in the shift production are **unsampled** lots.

## Related Pages

Special Sampling/Unsampled Lots, 23  
Special Sampling/Sampled Lots, 25  
Disposition of Retained Product, 27



# SPECIAL SAMPLING/PRODUCTION NOT REGULARLY SAMPLED/OPTION 2

## Option 2

The plant may elect to have the lots in the shift production sampled individually.

### Procedure Table

| STEP | PROCEDURE   |
|------|---|
| 1    | Identify three separate batches of product in each unsampled lot. From each of these three batches, draw two random one-pound sample units. Keep each lot sample separate and, within the lot sample, keep each two-unit group separate.  |
| 2    | For the plant sample: take one unit from each two-unit group and place it in a plastic bag. Fasten each bag tightly and keep the three bags together.   |
| 3    | Number the three bags 1 of 3, 2 of 3, 3 of 3. Date each bag. Identify each with the establishment number and a sample number. (Sample numbers run consecutively from 101 to 999 and then repeat.) Each bag within a sample should carry an identical sample number.   |
| 4    | Use the same procedure to prepare the remaining three units from each lot. These will be the companion samples. Companion samples should bear the same sample number as the matching plant sample to be sent to the certified laboratory.   |
| 5    | Store the companion samples in a well-refrigerated area. [When you have accumulated four such groups of three units each, select one of the groups. Prepare an FSQS Form 6200-1, indicating the sample number and the date the sample was originally taken. Identify the sample as a companion sample and request analyses for fat and added water. Submit form and sample to the FSQS laboratory serving MPI in your area. Destroy identifying marks on the other three samples and return them to the plant. Only you and the FSQS laboratory should know the companion sample you selected.] |

CONTINUED ON NEXT PAGE

# SPECIAL SAMPLING/PRODUCTION NOT REGULARLY SAMPLED/OPTION 2 (Continued)

| STEP                                      | PROCEDURE   |   |      |        |  |        |  |        |        |        |
|---|---|---|------|--------|--|--------|--|--------|--------|--------|
| 6   | Prepare an FSQS Form 6200-1 requesting laboratory analysis for fat and/or added water and submit it with the plant sample to the certified laboratory. Include on the form the sample number and the date the sample was taken. Await laboratory analysis results.  |   |      |        |  |        |  |        |        |        |
| 7   | <p>When you receive the laboratory results, determine the zone classification for each sample submitted.</p> <table> <tr> <th>IF THE LABORATORY RESULT IS CLASSIFIED IN</th><th>THEN</th></tr> <tr> <td>Zone A</td><td>Release the lot from which it was drawn.</td></tr> <tr> <td>Zone B</td><td rowspan="4">Keep the lot from which it was drawn retained and require the plant to rework, shrink, or relabel the product.</td></tr> <tr> <td>Zone C</td></tr> <tr> <td>Zone D</td></tr> <tr> <td>Zone E</td></tr> </table> | IF THE LABORATORY RESULT IS CLASSIFIED IN | THEN | Zone A | Release the lot from which it was drawn. | Zone B | Keep the lot from which it was drawn retained and require the plant to rework, shrink, or relabel the product. | Zone C | Zone D | Zone E |
| IF THE LABORATORY RESULT IS CLASSIFIED IN | THEN  |   |      |        |  |        |  |        |        |        |
| Zone A                                    | Release the lot from which it was drawn.  |   |      |        |  |        |  |        |        |        |
| Zone B                                    | Keep the lot from which it was drawn retained and require the plant to rework, shrink, or relabel the product.  |   |      |        |  |        |  |        |        |        |
| Zone C                                    |   |   |      |        |  |        |  |        |        |        |
| Zone D                                    |   |   |      |        |  |        |  |        |        |        |
| Zone E                                    |   |   |      |        |  |        |  |        |        |        |

## Comment

The plant may request additional special sampling of retained lots. All lots in the shift production are now considered **sampled** lots.

## Related Pages

Special Sampling/Sampled Lots, 25  
Disposition of Retained Product, 27

# SPECIAL SAMPLING/UNSAMPLED LOTS

## Introduction

When a regular sample fails to meet criteria for fat or added water, retention of the shift production is required. The lot from which the sample was drawn is a **sampled** lot. All other lots in the shift production are considered **unsampled** lots.

## Use

Use this procedure any time the plant requests special sampling of individual **unsampled** lots.

## Procedure Table

| STEP | PROCEDURE   |
|------|---|
| 1    | Identify three separate batches of product in each unsampled lot. From each of these three batches, draw two random one-pound sample units. Keep each lot sample separate and, within the lot sample, keep each two-unit group separate.  |
| 2    | For the plant sample, take one unit from each two-unit group and place it in a plastic bag. Fasten each bag tightly and keep the three bags together.   |
| 3    | Number the three bags 1 of 3, 2 of 3, and 3 of 3. Date each bag. Identify each with the establishment number and a sample number (sample numbers run consecutively from 101 to 999 and then repeat). Each bag within a sample should carry an identical sample number.  |
| 4    | Use the same procedure to prepare the remaining three units from each lot. These will be the companion samples. Companion samples should bear the same sample number as the matching plant sample to be sent to the certified laboratory.   |
| 5    | Store the companion samples in a well-refrigerated area. [When you have accumulated four such groups of three units each, select one of the groups. Prepare an FSQS Form 6200-1, indicating the sample number and the date the sample was originally taken. Identify the sample as a companion sample and request analyses for fat and added water. Submit form and sample to the FSQS laboratory serving MPI in your area. Destroy identifying marks on the other three samples and return them to the plant. Only you and the FSQS laboratory should know the companion sample you selected.] |

CONTINUED ON NEXT PAGE



# SPECIAL SAMPLING/UNSAMPLED LOTS

## (Continued)

| STEP                                      | PROCEDURE   |   |      |        |  |        |  |        |        |        |
|---|---|---|------|--------|--|--------|--|--------|--------|--------|
| 6   | Prepare an FSQS Form 6200-1 requesting laboratory analysis for fat and/or added water and submit it with the plant sample to the certified laboratory. Include on the form the sample number and the date the sample was taken. Await laboratory analysis results.  |   |      |        |  |        |  |        |        |        |
| 7   | <p>When you receive the laboratory results, determine the zone classification for each sample submitted.</p> <table> <tr> <th>IF THE LABORATORY RESULT IS CLASSIFIED IN</th><th>THEN</th></tr> <tr> <td>Zone A</td><td>Release the lot from which it was drawn.</td></tr> <tr> <td>Zone B</td><td rowspan="4">Keep the lot from which it was drawn retained and require the plant to rework, shrink, or relabel the product.</td></tr> <tr> <td>Zone C</td></tr> <tr> <td>Zone D</td></tr> <tr> <td>Zone E</td></tr> </table> | IF THE LABORATORY RESULT IS CLASSIFIED IN | THEN | Zone A | Release the lot from which it was drawn. | Zone B | Keep the lot from which it was drawn retained and require the plant to rework, shrink, or relabel the product. | Zone C | Zone D | Zone E |
| IF THE LABORATORY RESULT IS CLASSIFIED IN | THEN  |   |      |        |  |        |  |        |        |        |
| Zone A                                    | Release the lot from which it was drawn.  |   |      |        |  |        |  |        |        |        |
| Zone B                                    | Keep the lot from which it was drawn retained and require the plant to rework, shrink, or relabel the product.  |   |      |        |  |        |  |        |        |        |
| Zone C                                    |   |   |      |        |  |        |  |        |        |        |
| Zone D                                    |   |   |      |        |  |        |  |        |        |        |
| Zone E                                    |   |   |      |        |  |        |  |        |        |        |

### Comment

The plant may request additional special sampling of retained lots. All lots in the shift production are now considered **sampled** lots.

### Related Pages

Special Sampling/Sampled Lots, 25

Disposition of Retained Product, 27



# SPECIAL SAMPLING/SAMPLED LOTS

## Introduction

Previously sampled retained lots from a shift's production may be resampled at the plant's request.

## Procedure Table

| STEP | PROCEDURE  |
|------|--|
| 1    | Draw 30 random 2-pound sample units from each retained lot.  |
| 2    | Divide each sample unit into two one-pound units. Put each in a plastic bag and fasten the bag tightly. Keep each two-unit group separate.   |
| 3    | Identify both bags in each two-unit group with the establishment number, a sample number, and the date. Use consecutive sample numbers (e.g., 303, 304, 305...) for each two-unit group.   |
| 4    | Take one of the two units from each group. These bags will be the plant sample submitted to the certified laboratory. Prepare an FSQS Form 6200-1 requesting laboratory analysis for fat and/or added water for <b>each</b> sample unit and submit them with the plant samples to the certified laboratory.  |
| 5    | Select eight random sample units from the remaining 30 units. These will be companion samples. Prepare an FSQS Form 6200-1 requesting laboratory analysis for fat and added water for <b>each</b> sample and submit them with the samples to the FSQS laboratory serving MPI in your area. Destroy identifying marks on the other 22 samples and return them to the plant. |
| 6    | When the laboratory results are received, determine the zone classification for each of the 30 plant samples, and calculate their average.   |

CONTINUED ON NEXT PAGE

# SPECIAL SAMPLING/SAMPLED LOTS (Continued)

| STEP | PROCEDURE  |   |
|------|--|---|
| 7    | IF   | THEN  |
|      | None of the 30 lab results are classified in Zone E<br><b>and</b><br>the average for the 30 lab results is in Zone A | Release the lot from which the 30 samples were drawn.       |
|      | One or more of the 30 lab results is classified in Zone E  | Keep the lot from which the 30 samples were drawn retained. |
|      | The average for the 30 lab results is <b>not</b> in Zone A.  |   |

## Rule

No further sampling is permitted for this retained sampled lot. The plant must rework, shrink, relabel, or propose other disposition of the product.

## Related Page

Disposition of Retained Product, 27

# DISPOSITION OF RETAINED PRODUCT

## Introduction

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All retained product must be brought into compliance with MPI regulations before leaving the establishment. There are several options that the plant may choose to bring product into compliance.

---

## Options

The plant may elect to:

- compensate for excess fat by **reworking** the product into another product of the same basic formula
  - eliminate excess water by **shrinking** the product
  - request permission to **relabel** the product as “imitation”
  - propose an alternate disposition
- 

## Related Pages

Disposition — Option 1 (Rework), 28  
Disposition — Option 2 (Shrink), 29  
Disposition — Option 3 (Relabel), 30  
Disposition — Option 4 (Other), 31

# DISPOSITION/OPTION 1 (REWORK)

## Option 1

The plant may compensate for excess fat by **reworking** the product into another product of the same basic formula and cooking procedure.

## Procedure Table

| STEP | PROCEDURE  |   |
|------|--|---|
| 1    | Closely observe the complete reworking procedure.                |   |
| 2    | IF   | THEN  |
|      | You are certain the product is in compliance.                    | Release finished product.   |
|      | You have reason to doubt the compliance of the finished product. | Submit a sample of the finished product (3 one-pound units) to the certified laboratory. Release product only if laboratory results show product in compliance. |



## DISPOSITION/OPTION 2 (SHRINK)

### Option 2

The plant may elect to eliminate excess water by shrinking the product.

### Procedure Table

| STEP  | PROCEDURE   |    |      |   |                  |   |  |
|---|---|----|------|---|------------------|---|--|
| 1   | Compute the total product weight before shrinking.  |    |      |   |                  |   |  |
| 2   | Compute the total product weight after shrinking.   |    |      |   |                  |   |  |
| 3   | <p>Determine the shrink percentage.</p> <p>Example: Plant is on tightened criteria. The lab result was 12.5% added water. Product must be reduced to 10.0% to be in compliance (Zone A).</p> <p>Product weighs 5422 lbs. before shrink, 5282 lbs. after shrink. Difference is 140 lbs.</p> <p><math>140 \text{ lbs.} \div 5422 \text{ lbs.} = .026 = 2.6\% \text{ shrink.}</math></p> |    |      |   |                  |   |  |
| 4   | <table><tr><th>IF</th><th>THEN</th></tr><tr><td>Retained product is shrunk to compliance.</td><td>Release product.</td></tr><tr><td>Retained product is not shrunk to compliance.</td><td>Retain product until shrunk to compliance.</td></tr></table>  | IF | THEN | Retained product is shrunk to compliance. | Release product. | Retained product is not shrunk to compliance. | Retain product until shrunk to compliance. |
| IF  | THEN  |    |      |   |                  |   |  |
| Retained product is shrunk to compliance.     | Release product.  |    |      |   |                  |   |  |
| Retained product is not shrunk to compliance. | Retain product until shrunk to compliance.  |    |      |   |                  |   |  |

### Comment

The shrinking of product must not alter it to the point that an excess fat violation results.

## DISPOSITION/OPTION 3 (RELABEL)

### Option 3

The plant may request permission to **relabel** the product as "imitation."

### Procedure Table

| STEP | PROCEDURE  |   |
|------|--|---|
| 1    | When the plant requests permission to relabel the product, contact your supervisor for instructions. |   |
| 2    |  |   |
|      | IF   | THEN  |
|      | You are instructed to permit relabeling  | Supervise the relabeling and release the product.                               |
|      | You are instructed <b>not</b> to permit relabeling   | Inform plant management that relabeling is unacceptable. Keep product retained. |

## DISPOSITION/OPTION 4 (OTHER)

### Option 4

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The plant may propose an alternative disposition in lieu of reworking, shrinking, or relabeling.

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### Procedure Table

| STEP | PROCEDURE   |
|------|---|
| 1    | When the plant proposes an alternate method of disposition, contact your supervisor for instructions. |
| 2    | Follow your supervisor's instructions regarding disposal of the retained product.                     |

# FAT AND MOISTURE/SUPERVISORY EVALUATION POINTS

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## Use

At least once each month, visit all circuit plants that produce cooked sausage products for which the plant is required to control fat/moisture content.

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## Checklist

- Large plant — Compare 20% of fat and moisture sample lab results (randomly selected) with entries on MP Form 492 to determine accuracy and completeness of entries.
  - Small Plant — Compare all fat and moisture sample lab results with entries on MP Form 492 to determine accuracy and completeness of entries.
  - Observe selection of samples by inspector, plant preparation of samples (where applicable), and submittal of samples and companion samples to see if performed in accordance with Manual, Part 23, and this guide.
  - Check, when possible, the inspector's handling of product retention and disposition.
  - Observe the plant's method of identifying lots within a shift production. If each lot is not positively identified, the inspector cannot sample individual lots and one sample must represent the entire shift production. If the plant is not properly identifying individual lots, check to see if the inspector is aware of this.
  - Discuss any performance deficiencies with the assigned inspector and determine if they are caused by a deficiency of execution (D/E) or a deficiency of knowledge (D/K).
  - Accumulated evidence of performance can be evaluated and used to determine frequency of visits to the plant and inspector training needs.
- 

## Comment

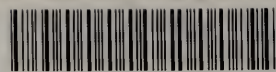
It is proposed to furnish a copy of the FSQS 6200-1 laboratory results to the area office or circuit supervisor when the results indicate noncompliance. This would permit unannounced visits to plants to review the inspector's handling of non-complying product.

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